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Configuration Management Plan for the Modeling and Simulation Resource Repository (MSRR)

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SECTION 1

1.0 INTRODUCTION

1.1 Background. The Department of Defense (DOD) Modeling and Simulation Master Plan (MSMP), DOD 5009.59P, establishes a modeling and simulation (M&S) common technical framework that will provide readily available and operationally valid synthetic environments for use by DOD elements in support of operations, training, and acquisition. The purpose of this framework is to facilitate interoperability and promote reuse of models and simulation components among DOD and other elements. The Defense Modeling and Simulation Office (DMSO) has been designated as the sponsor for development of this technical framework, which includes a Modeling and Simulation Resource Repository (MSRR).

1.2 MSRR Overview. The MSRR is a collection of M&S information domain resources, implemented within a distributed client-server network. These information resources include actual models and simulations, the conceptual model of the mission space, simulation and federation object models, algorithms, tools, instance databases and data sets, data standardization and administration products, documents, and metadata about the different resources. An MSRR Master Node will be established at and operated by the MSRR Program Management Office (PMO) located at the US Army White Sands Missile Range, Electronic Proving Ground (EPG), Fort Huachuca, Arizona. The MSRR Master Node and other MSRR Nodes at various locations will be connected to the Internet as part of the World Wide Web (WWW) for the purpose of sharing and distributing up-to-date M&S information and products for use and reuse by the M&S community.

1.3 Purpose. This document provides the plan for configuration management (CM) of the DOD MSRR.

1.4 Scope. This document identifies CM requirements for hardware, firmware, software, databases, and documentation produced or acquired for the MSRR.

1.5 Applicability. This CM plan (CMP) applies to both Government organizations and private contractor organizations (hereinafter collectively referred to as the MSRR Project Team) engaged in the development, maintenance, and operation of the MSRR. DMSO has designated EPG as the PMO for the MSRR. The EPG MSRR Program Manager has overall responsibility for development and CM of the MSRR, including coordination and direction of CM performed by other members of the MSRR Project Team supporting EPG. Supporting MSRR Project Team members will establish supplementary CM procedures and develop or acquire tools, as

necessary, to comply with the CM requirements specified in this plan. See Section 3 for a description of the MSRR Project Team CM organization, roles, responsibilities, and authorities.

1.6 Document Overview. This CMP has been written using MIL-STD-498 and MIL-STD-973 as guidelines, tailored for MSRR requirements. The CM requirements specified in this CMP will be applied throughout the life cycle of each part of the MSRR identified as a configuration item (CI). CIs for the MSRR include hardware, firmware, software, databases, and documentation. This CMP addresses both the evolving development and post-development support environments, including the MSRR CM organization and functions, CI identification, CM change procedures, configuration status accounting, and configuration auditing. A list of acronyms and abbreviations and a list of terms and definitions are contained in Sections 12 and 13, respectively.

1.7 Objective. The objective of this CMP is to establish a mechanism for ensuring configuration control of the MSRR to support its development, maintenance, and operation throughout its life cycle.

1.8 Implementation Policy. To save time and cost, wherever practicable, CM for the MSRR will be performed electronically. For example, telephone conference calls, video teleconferencing, and electronic mail (email) will be used in lieu of face-to-face meetings and letters/memoranda. Maximum use of MSRR Home Page services will be used for coordinating and publishing documents, making forms available, and/or completing and distributing forms online over the WWW. In addition, automated CM tools will be used to the maximum extent possible, whether they are locally developed or acquired from Government sources or vendors as off-the-shelf items.

SECTION 2

2.0 REFERENCE DOCUMENTS

2.1 List of Documents. The following documents have been used for development of and/or are referenced in this CMP:

a. DOD 5000.59P, Modeling and Simulation (M&S) Master Plan (MSMP), August 1995

b. DMSO MSRR Operational Concept Description, Version 0.3, 10 May 1996

c. DMSO MSRR Architecture Document, 11 April 1996

d. MIL-STD-498, Software Development and Documentation, 5 December 1994

e. MIL-STD-973, Configuration Management, 1 December 1992

f. DMSO MSRR Operator's Guide (In Development)

g. DMSO MSRR User's Guide (In Development)

h. Defense Information Infrastructure (DII) Common Operation Environment (COE), Preliminary Version 2.0, October 23, 1995.

SECTION 3

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 General. The primary functional groups for any organization involved in CM for a project are depicted in Figure 3-1. The solid lines indicate direct lines of management, and the dotted lines represent associative relationships. Figure 3-1 is general in nature and applicable to any project team. Depending on the size, scope, and complexity of work being performed by a specific project team, multiple functions may be performed by a single person, and/or a single function may be performed by more than one person. Not all of the functions need be performed at a single location but may be accomplished at multiple sites. In some cases, a project team member may be tasked to perform only one or perhaps a subset of these functions. In addition, special bodies or working groups may be constituted as needed to assist in conducting CM, using personnel assigned from various functions wherever they are performed. The functional organization for the MSRR Project Team parallels this general organizational structure. Paragraph 3.2 identifies the major organizations comprising the MSRR Project Team and identifies the roles, responsibilities, and authorities associated with each of the functions shown in Figure 3-1.

3.2 MSRR Project Team

a. For the MSRR, DMSO has been designated Program Sponsor, and EPG has been designated as the PMO. EPG will designate the Program Manager for MSRR, who will have direct responsibility for development and CM of the MSRR. As the PMO, EPG retains overall responsibility for CM but may assign or contract out CM functions to other MSRR Project Team members as required. In addition to DMSO and EPG, the MSRR Project Team consists of several support contractors and the MSRR Node organizations (see Fig. 6-1).

b. The support contractors will provide analysis, implementation, integration, and CM support to EPG for the MSRR Project, with the Technical Advisors providing technical leadership for the MSRR Project Team. The MSRR Node organizations will provide CM of the hardware and software required to interface with the MSRR and to operate as MSRR Nodes. The MSRR Information Domain Coordinators (IDCs) will identify, organize, and administer their information domains. Figure 3-2 depicts these overall organizational relationships. Each MSRR Node will designate a Node Administrator. The Node Administrator functions include (see the MSRR Node Administrator's Guide which is an appendix to the MSRR Operator's Guide) overall responsibility for both the System Administration and Data Administration functions shown in Figure 3-1. These functions may be directly performed by a System Administrator and a Data Administrator assigned to assist the Node Administrator.

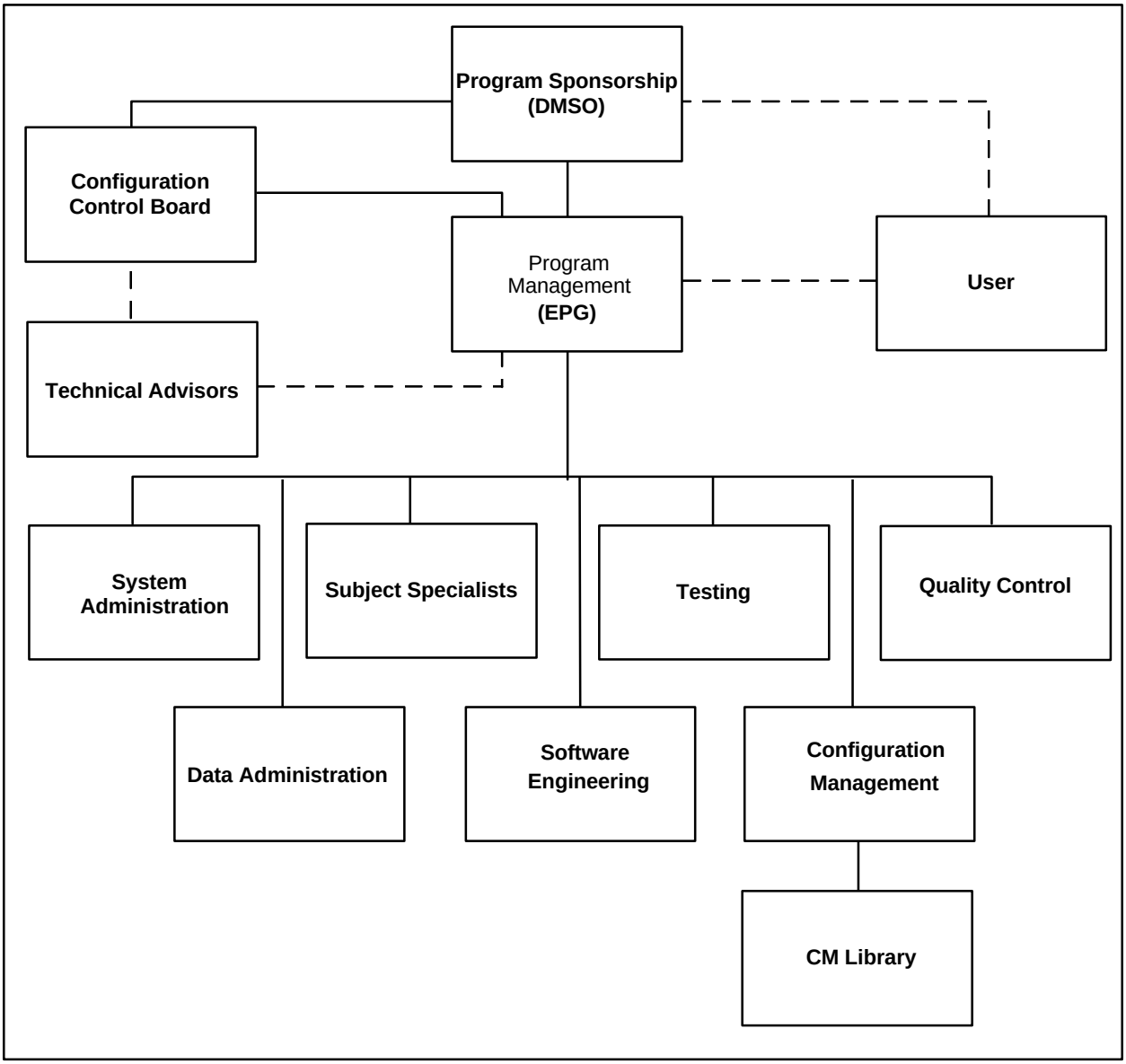


Figure 3-1. Configuration Management Functional Organization.

c. The approach being used for development of the MSRR requires that CM for the MSRR be viewed from two levels: the MSRR System perspective, and the MSRR Node perspective. The MSRR is being designed to perform high-level MSRR System functions at the MSRR Master Node that are common to or in support of all other MSRR Nodes. Development, maintenance, and operation of each individual MSRR Node will be accomplished by a different organization, and each Node will be designed to perform functions unique to the local operation of the Node as

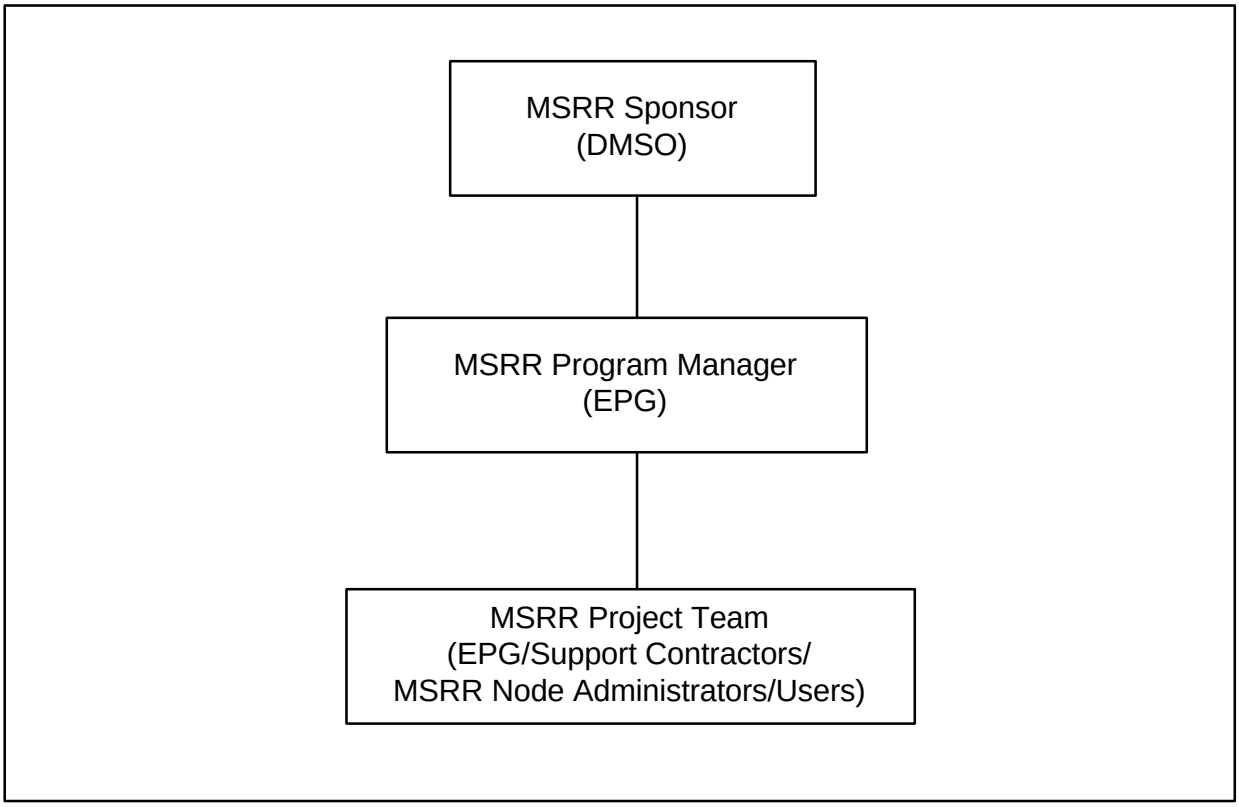


Figure 3-2. MSRR Program Organizational Structure.

well as the common high-level MSRR System functions. Each MSRR Node must meet the requirements as specified for the MSRR System in the Operational Concept Description. Thus, the MSRR Program Manager, from the MSRR System perspective, must ensure that CM policies, procedures, and standards being used for the MSRR Nodes are in consonance with those prescribed in this CMP for the MSRR System.

d. From the MSRR Node perspective, each MSRR Node will be responsible for implementing the policies, procedures, and standards specified in this CMP and, as required, will publish an MSRR Node CMP for implementing the policies, procedures, and standards in this CMP and/or any supplemental CM policies, procedures, and standards established specifically for the Node.

3.3 Change Control Organization. An MSRR Configuration Control Board (CCB) will be established which will consist of a Chairperson designated by DMSO; permanent voting and nonvoting members; and, on an ad hoc basis, other nonvoting members, all drawn from the MSRR Project Team, including User communities as required. A charter for the MSRR CCB is contained in Appendix A, and detailed procedures for implementing and controlling changes

through the CCB are presented in Section 8. The CCB's major function is to assist in providing overall direction and management of the CM process including, but not limited to, the following:

a. Establishing CM policies and procedures

b. Directing and coordinating the implementation of CM policies and procedures

c. Reviewing, validating, prioritizing, and controlling proposed changes to baselines.

3.4 CM Roles, Responsibilities, and Authorities. The following describes the general roles and the major responsibilities and authorities of the MSRR CCB Chairperson and other MSRR Project Team personnel who perform CM functions. Additional individual roles and responsibilities pertaining to CM change control, accounting, and auditing are described in more detail in Section 8, Configuration Control; Section 9, Configuration Status Accounting; Section 10, Configuration Audits; and Appendix A, Charter for the MSRR CCB.

3.4.1 CCB Chairperson. The CCB Chairperson directs the activities of the CCB.

a. Responsibilities
   (1) Schedule CCB meetings
   (2) Establish the agenda for CCB meetings
   (3) Lead CCB meetings
   (4) Advise and keep DMSO and EPG informed of CCB actions, as required
   (5) Vote on change proposals.

b. Authorities
   (1) Decide action on CM emergencies requiring action before the CCB can be convened.

3.4.2 MSRR Program Manager. The MSRR Program Manager is responsible for ensuring that a quality product is produced on time and within budget.

a. Responsibilities
   (1) Assume overall responsibility for the activities and performance of the MSRR Project Team.
   (2) Act as a nonvoting member of the CCB

b. Authorities
   (1) Approve supplemental CM policies, procedures, and standards.

3.4.3 Configuration Control Manager (CCM). The MSRR Program Manager may also act as the CCM. The CCM has primary responsibility for implementing CM. This responsibility includes developing supplemental CM procedures for the project if required, monitoring day-to-day CM activities, and coordinating the CM efforts of all project personnel.

a. Responsibilities

(1) Act as a nonvoting member of the CCB, and keep the CCB and Program Manager informed and advised on CM issues

(2) Perform CM audit checks

(3) Ensure that CM procedures are followed

(4) Manage change control procedures to ensure configuration traceability of all CIs

(5) Establish and manage the MSRR CM Library

(6) Ensure that CM reports and presentations are prepared, as required

(7) Evaluate and acquire tools to support CM

(8) Review Problem and Change Reports (PCRs) and Engineering Change Proposals (ECPs) for completeness and accuracy

(9) Track all CCB activities/actions

(10) Determine whether the MSRR CM Library should be updated with software or document modifications

(11) Oversee implementation of product baseline releases

(12) Collect CM-related metrics and maintain Configuration Status Accounting (CSA) databases (see Sec 9).

b. Authorities

(1) Accept or reject updates to the MSRR CM Library.

3.4.4 MSRR CM Librarian. The MSRR CM Librarian is directly responsible for ensuring that the MSRR CM Library is properly established, operated, and maintained.

a. Responsibilities

(1) Establish, operate, and maintain the MSRR CM Library as directed by the CCM

(2) Prepare and distribute copies of any documents (including PCRs) required for CCB meetings

(3) Prepare and distribute CCB meeting minutes

(4) Update CSA information with the results of CCB meetings

(5) Administer the assignment of CIs and their identifiers

(6) Act as an ad hoc nonvoting member of the CCB.

b. Authorities

(1) None.

3.4.5 Software Engineering Group. The Software Engineering Group is responsible for developing and testing software and preparing related documents. One member of this group is usually designated as the Software Engineering Group Leader.

a. Responsibilities

(1) Provide technical expertise for the CCB, as required

(2) Complete, prior to CCB meetings, an impact analysis of requested changes, including time and cost estimates

(3) Complete and record the software required to implement changes
(4) Prepare all baseline materials for submission to the MSRR CM Library
(5) Ensure that required documentation is updated
(6) Act as an ad hoc nonvoting member of the CCB.

b. Authorities
(1) None.

3.4.6 Testing Group. Testing personnel are responsible for independent testing of any changes to a baseline. A Subject Specialist is normally designated as the Lead Tester, assisted by the System Administrator, Users, and other personnel as required. However, independent testing of any software CI will not be performed by either Quality Control (QC) or Software Engineering personnel who are directly involved in the development or maintenance of the software CI.

a. Responsibilities
(1) Ensure that test facilities and test equipment are properly prepared for testing changes
(2) Ensure that all testing is conducted in accordance with (IAW) test plans and procedures, and that test logs are properly maintained
(3) Ensure that changes to the baseline perform as expected and meet requirements
(4) Ensure that a letter is prepared for signature of DMSO for the acceptance and delivery of any new baseline version to Users.

b. Authorities
(1) Accept or reject changes as part of the new baseline.

3.4.7 QC Personnel. QC personnel assist in ensuring that all products and project activities comply with CCB directives and CM policies, procedures, and standards.

a. Responsibilities
(1) Advise project personnel on CCB directives and CM policies, procedures, and standards
(2) Review and audit CM activities
(3) Report CM audit check results to the MSRR Program Manager and CCM
(4) Act as an ad hoc nonvoting member of the CCB.

b. Authorities
(1) None.

3.4.8 System Administrator. The System Administrator is directly responsible for implementing and maintaining configuration control over the computer environment including hardware, firmware, commercial off-the-shelf (COTS) software, and networking. Tasks involve software installation, troubleshooting system problems, and interfacing with hardware and COTS software vendors.

a. Responsibilities

(1) Ensure that all required changes related to hardware, COTS software, and networking are implemented and documented following CM policies, procedures, and standards

(2) Advise on how software changes might impact the hardware, firmware, operating systems, or networking performance

(3) Advise on how hardware, firmware, operating systems, or networking changes might impact the software performance

(4) Assist the Testing Group in setting up the test system

(5) Assist the MSRR CM Librarian as required in maintaining control of hardware, firmware, and system software

(6) Act as an ad hoc nonvoting member of the CCB.

b. Authorities

(1) None.

3.4.9 Data Administrator. The Data Administrator is directly responsible for the integrity of data entered into the MSRR databases.

a. Responsibilities

(1) Ensure adherence to policies, procedures, and standards for handling, certification, security, and storage of resources

(2) Track modifications to databases after their baselines are established

(3) Ensure that methods are developed to save and store required data

(4) Advise the Node Administrator on the acceptability of resources for registration into the MSRR

(5) Act as an ad hoc nonvoting member of the CCB.

b. Authorities

(1) None.

3.4.10 Technical Advisors. Technical Advisors assist DMSO, EPG, and other MSRR Project Team members, as appropriate, on technical matters as they relate to CM policies, procedures, and standards.

a. Responsibilities

(1) Assist and advise in ensuring that CM policies and procedures are followed

(2) Assist in ensuring that the products to be delivered are properly tested, requirements are met, and associated documentation is reviewed and updated

(3) Perform CM audit checks, as required

(4) Act as an ad hoc nonvoting member of the CCB.

b. Authorities

(1) None.

3.4.11 Subject Specialists. A Subject Specialist is a person who has expertise in a particular field or domain such as M&S in general or specific area(s) of M&S.

a. Responsibilities

(1) Assist in collecting and interpreting requirements and in analyzing PCRs from the User's perspective

(2) Advise other MSRR Project Team members in translating functional require-ments into computer system requirements

(3) Assist in writing User documentation and training materials

(4) Assist in training Users

(5) Conduct independent testing of developmental CIs for acceptance into the MSRR CM Library

(6) Conduct independent testing of software in preparation for or during Formal Qualification Testing (FQT)

(7) Act as ad hoc nonvoting member of the CCB.

b. Authorities

(1) None.

3.4.12 User. A User is any organization and/or person engaged in either the production or use of models, simulations, or other MSRR resources.

a. Responsibilities

(1) Provide input for establishing requirements or modifying requirements using the PCR process discussed in Section 8

(2) Provide feedback on how well the system meets requirements

(3) Provide feedback on documentation using the PCR process discussed in Section 8

(4) Assist in testing changes for acceptance of new baselines

(5) Act as an ad hoc nonvoting member of the CCB.

b. Authorities

(1) None.

SECTION 4

4.0 CM PHASING AND MILESTONES. CM is a process that is an integral part of planning, development, and support of any system throughout its life cycle, and will be performed during all phases of the MSRR Project. Appropriate CM personnel must participate in pertinent project reviews leading toward three major milestones: establishment of the Functional Baseline (FBL), the Allocated Baseline (ABL), and the Product Baseline (PBL). To meet these milestones, EPG will develop the MSRR in the following four phases:

a. Phase I Proof-of-Concept Prototype

b. Phase II Operational Prototype

c. Phase III Initial Operating Capability (IOC)

d. Phase IV Final Operating Capability (FOC).

The following paragraphs describe these baselines and current milestones, and their relevance to CM and the four phases of the MSRR development. Figure 4-1 shows the MSRR CM phasing and milestones.

4.1 FBL

a. The FBL describes the objective and identifies the functional requirements for a system. The documentation comprising the FBL is known as the Functional Configuration Documentation (FCD). Establishment of the FBL is important to CM in that both operational and technical requirements must be realistically specified and documented to form the basis of a sound CM system that can relate all subsequent project activities and trace all subsequent baselines (i.e., the ABL and PBL) back to specified requirements. Traceability is essential for Verification, Validation, and Accreditation (VV&A) and Verification, Validation, and Certification (VV&C) of the MSRR. Because of the complexity of the MSRR, the use of automated tools to ensure traceability is essential. In the event there is a conflict between any of the documentation supporting the three baselines, the order of precedence for documentation will be (1) FBL, (2) ABL, and (3) PBL.

b. The Phase I Proof-of-Concept Prototype will be used to assist in establishing the initial MSRR FBL and ABL (the ABL is discussed in Para 4.2). During Phase I, the MSRR Operational Concept Description, the MSRR Architecture Document, the MSRR Requirements Document, and drafts of the MSRR Operator's Manual and MSRR User's Guide will be developed. The MSRR Requirements Document will constitute the initial FCD and the Allocated Configuration Documentation (ACD) (see Para 4.2) for CM of ensuing phases of MSRR development. Completion of Phase I is currently scheduled for September 1996, at which time Phase II will begin.

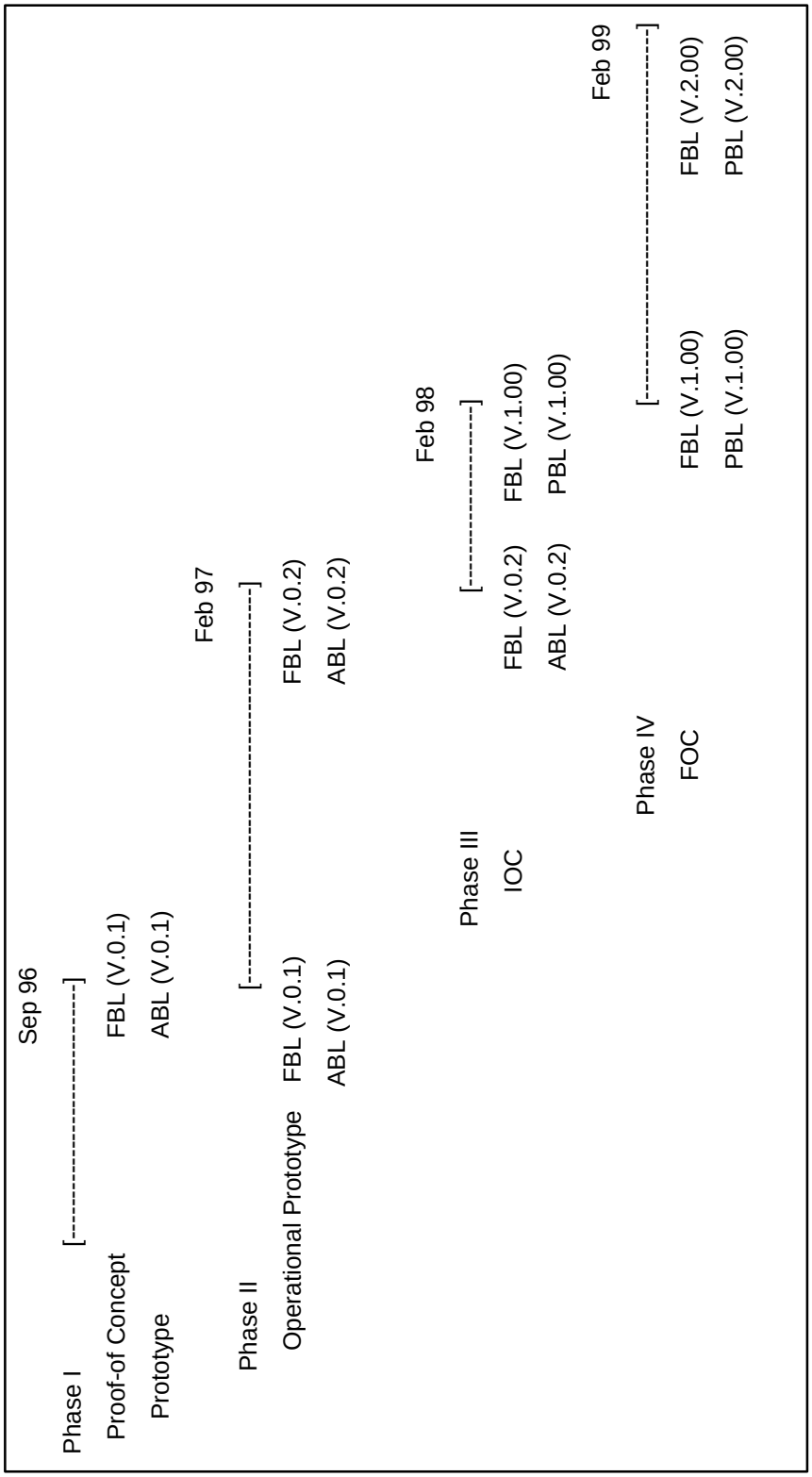


Figure 4-1. MSRR Configuration Management Phasing and Milestones.

4.2 ABL

a. The ABL allocates functions specified for the FBL to specific hardware, firmware, software, and database components (the CIs) of a system. The initial MSRR CIs (i.e., the initial MSRR Nodes to be included in the MSRR Phase II Operational Prototype) and their CI identifiers are shown in Figure 6-1. The MSRR Program Manager will identify the hierarchy and associated identifiers for all subcomponent CIs for the MSRR Master Node. Each of the other MSRR Node organizations shown in Figure 6-1 will identify the CI hierarchy and associated CI identifiers for their Nodes. CI identifiers are discussed in Section 6, and sample representative CI identifiers for the MSRR Master Node are shown in Figure 6-2. The MSRR ABL requirements (i.e., the ACD) will be incorporated into the MSRR Requirements Document discussed in Paragraph 4.1.

b. After completion of Phase I, the MSRR Proof-of-Concept Prototype will be placed under formal CM using the MSRR Requirements Document for the initial FBL and ABL. Each new version of the FBL and ABL developed after the MSRR is placed under formal CM will be traceable back to the requirements originally specified in the initial MSRR Requirements Document. During Phase II, all MSRR requirements documents referenced in the MSRR Requirements Document traceability matrix will be updated, as required, to reflect changes to the FBL and ABL.

c. Establishment of the initial MSRR FBL and ABL will be significant in that they will provide a firm basis for development of the individual MSRR Nodes. The hardware, firmware, software, and databases at each Node will have to perform the MSRR functions specified in the MSRR Requirements Document. The initial MSRR will be designated MSRR Version 0.1 (MSRR V.0.1). When the MSRR Proof-of-Concept Prototype is placed under formal CM, the following will be accomplished:

(1) CIs will be identified to the level necessary for effective CM. As development progresses, it may be necessary to identify and document additional CIs or to even remove any CIs that are no longer valid. To ensure the integrity of CI traceability, once a CI identifier is assigned to a CI, that identifier will not be used again for any other CI, even if the CI to which it was assigned becomes invalid.

(2) A CCB (see Para 3.3 and App A) will be constituted to maintain effective CM

(3) A system for CSA will be established IAW Section 9.

(4) A system for conducting configuration audits will be established IAW Section 10.

d. After MSRR V.0.1 is established, EPG will commence development of the Phase II Operational Prototype, which is currently scheduled for completion in February 1997. The Phase II Operational Prototype will include some functionality planned for at least all of the MSRR Nodes identified in Figure 6-1. One or more of the MSRR V.0.1 CIs, as well as any additional required CIs identified during Phase II development, will be assigned to the Software Engineering

Group. An automated developmental CM system will be established and maintained to track and test all hardware, firmware, software, and database changes made to the MSRR V.0.1 CIs. A copy of MSRR V.0.1 software and associated documentation will be kept intact in the MSRR CM Library, and copies will be distributed to the Software Engineers and other MSRR Project Team members as required for developmental purposes. Each time a developmental change is made to a CI, audited by QC personnel, independently tested, and accepted by the CCM into the MSRR CM Library, the change will be documented and traceable back to each preceding developmental baseline. In addition, a copy of each new developmental baseline and associated documentation will be made available to each Software Engineer, Node Administrator, and other appropriate personnel to ensure that they are working with the most current developmental version of the software and documentation. Each Software Engineer will have a separate work area for developing and maintaining assigned CIs. The work area can be a separate machine or separate areas of a single machine supporting multiple Software Engineers. Depending on the size and complexity of the effort at a particular MSRR Project Team location, a network of developmental systems with read-only access to a central baselined computer system with the most current developmental baselined software installed may be needed. The System Administrator maintains this central baselined computer environment.

e. Upon completion of the Phase II Operational Prototype, all pertinent documentation will be updated, establishing a new FBL and an ABL as MSRR V.0.2. At that time, EPG will commence Phase III IOC development, which is currently scheduled for completion in February 1998. The same CM procedures used for development of the Phase II will be followed for Phase III. After all individual developmental changes required for establishment of IOC are independently tested, they will be integrated and tested as a system prior to making the new developmental baseline available for formal acceptance testing by DMSO IAW the MSRR software test documents. This acceptance testing process is known as FQT. Any errors or deficiencies identified during FQT will be documented and a determination will be made by the FQT Test Director (to be designated by DMSO) as to which error/deficiency items are to be fixed prior to acceptance. Those items not required to be fixed at the time of acceptance will become PCRs (see Sec 8). Upon acceptance of the new baseline by the Test Director, the Test Director will ensure delivery of the following items to DMSO:

(1) A copy of the MSRR software on tape or disk

(2) A backup copy of the MSRR software on tape or disk

(3) MSRR documentation (hard and electronic media)

(4) An acceptance letter prepared for DMSO signature/approval of the initial PBL for IOC, and authorization to install and test the IOC on each existing and subsequently registered MSRR Node.

4.3 PBL/IOC.The PBL represents the version to be released for general operational use. When the MSRR IOC is accepted by DMSO, it will become the initial MSRR PBL and will be designated MSRR V.1.00. The accepted MSRR V.1.00 software and documentation required for

operation of the MSRR Nodes will be installed on each Node. As each Node is successfully tested and accepted by EPG, it will become a registered operational MSRR Node. Documentation, including the MSRR Operator's Manual and MSRR User's Guide, will be updated and will constitute the MSRR Product Configuration Documentation (PCD). MSRR PCD will be distributed, as required, to Node Administrators and other Users.

4.4 FOC. Upon establishment of IOC, EPG will begin Phase IV of MSRR development leading to FOC, which is scheduled for completion in February 1999. Using feedback from Users of the IOC, new PBL versions of the PBL will be incrementally established as necessary until FOC is accepted by DMSO. The same developmental and testing procedures used for establishment of IOC will be used for establishment of FOC. FOC will be designated MSRR V.2.00.

SECTION 5

5.0 RESOURCE MANAGEMENT. The operational success of the MSRR depends on the integrity of the data files used as input for its operation. Because of the dynamic nature of much of the data (e.g., when instance databases are created for a particular simulation or federation), in addition to tracking modifications to database structures, methods must be put in place to save and store these data files for future use. Furthermore, because Users of the MSRR will rely on data and individual applications (models, simulations, and federations) under the auspices and CM control of numerous M&S producers of MSRR resources, it is essential that methods be established to ensure the integrity of the data files and other resources.

5.1 Resource Integrity. To ensure the integrity of MSRR resources, the CCM, Data and Node Administrators, and IDCs will function IAW MSRR policies, procedures, and standards promulgated by DMSO for data, VV&A and VV&C, and security. To assist in establishing and promulgating these policies, procedures, and standards, a Node Administrator Working Group (NAWG) will be formed consisting of a Chairperson designated by DMSO, all MSRR Node Administrators, and the IDCs as members. Node Administrators will use the MSRR Node Administrator's Guide (an appendix to the MSRR Operator's Guide) as the governing document for managing MSRR resources. The IDCs will analyze, identify, organize, register, and delete the MSRR resources.

SECTION 6

6.0 CONFIGURATION IDENTIFICATION. Identification and control of each CI by a unique configuration identifier is essential for management of the developmental process and control of changes to established baselines.

6.1 Version Release Identification

a. All versions of the MSRR that are under formal CM control will have a unique release identifier, referred to as the version number. This identifier will consist of a numeric with the components delimited by decimal points. Prototype versions will have a “0” as the first digit and a single digit starting with “1” to represent each successive version. For example, MSRR V.0.1 will denote the first version (the Phase I Proof-of-Concept Prototype), and MSRR V.0.2 will denote the next version (the Phase II Operational Prototype). Once a PBL is established, the first digit will represent the version number release (starting with “1”), followed by two digits to denote modifications to the baseline. For example, MSRR V.1.00 would denote the first delivered PBL (IOC), MSRR V.1.03 would denote the third modification to IOC, and MSRR V.2.00 would denote the next entirely new release (FOC).

b. Since not all computer systems used to host the MSRR software at the MSRR Nodes will have a standard overall hardware, firmware, and software configuration (see Para 3.2), the Nodes will be viewed as individual subsystems of the MSRR. Accordingly, a similar version number will be assigned to each MSRR Node following the MSRR version number. For example, the first PBL version of the Navy Node will be referred to as "MSRR 1.00 NAVY 1.00." Figure 6-1 shows the initial MSRR System/Node version identifiers.

6.2 CIs/Identifiers

a. A computer Hardware Configuration Item (HWCI) is an aggregation of hardware and/or firmware that satisfies a specified function and is designated for separate CM. Each higher level HWCI is partitioned into subcomponents, as necessary, to ensure effective CM.

b. A Computer Software Configuration Item (CSCI) is an aggregation of software that satisfies a specified function and is designated for separate CM. Each higher level CSCI is partitioned into subcomponents as necessary to ensure effective CM. CSCIs may be operating system software, middleware, client software, server software, applications programs and sub-programs, and databases.

c. An MSRR Node will have subordinate HWCIs and CSCIs with the next level of identifiers, such as those illustrated in Figure 6-2. Figure 6-2 uses a representative sample of some of the higher level CIs of the MSRR Master Node configuration. Although the configurations and names of the individual MSRR Node CIs may vary, the identifier and version number for HWCIs,

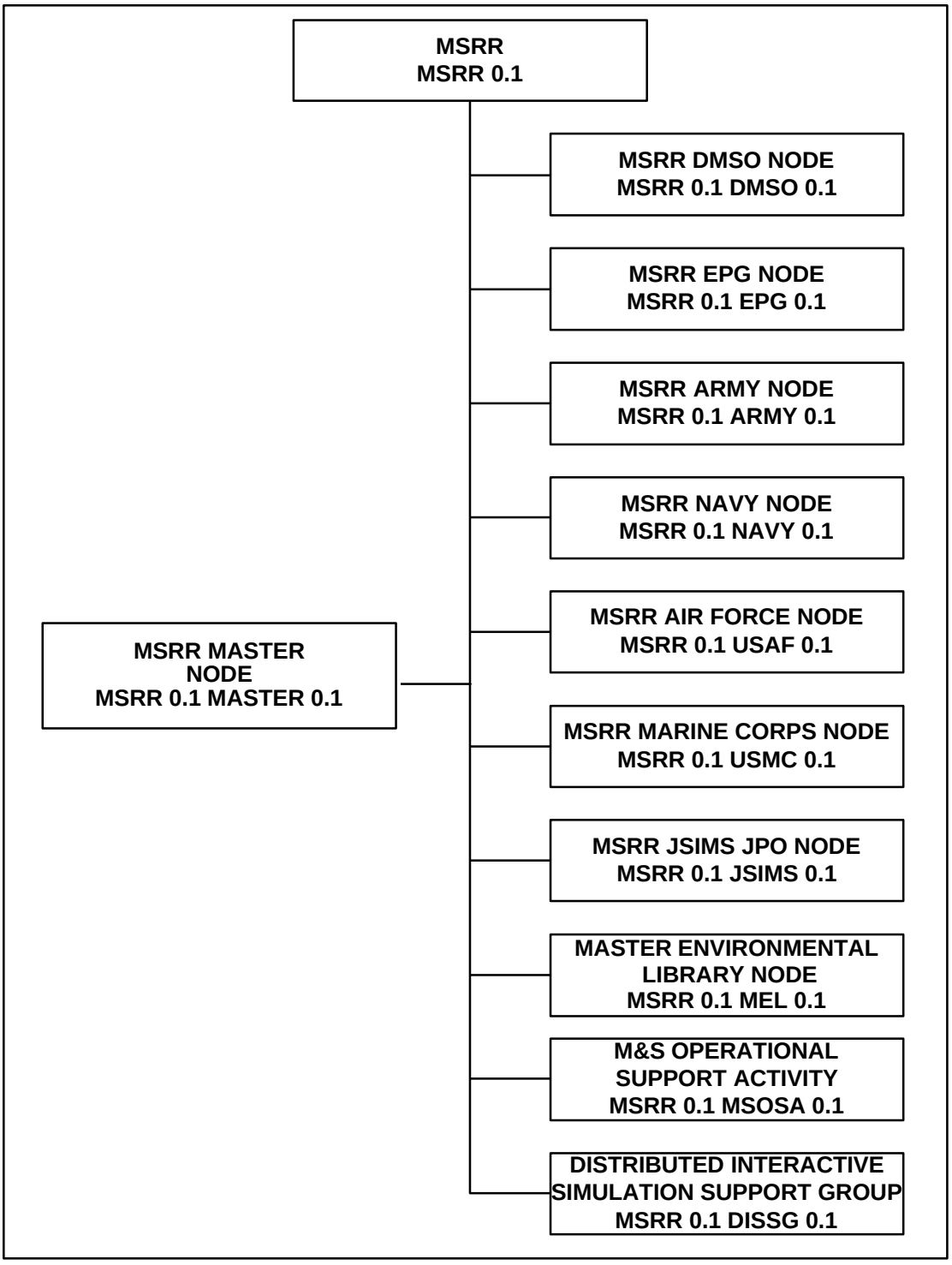


Figure 6-1. Initial MSRR Configuration Identifiers.

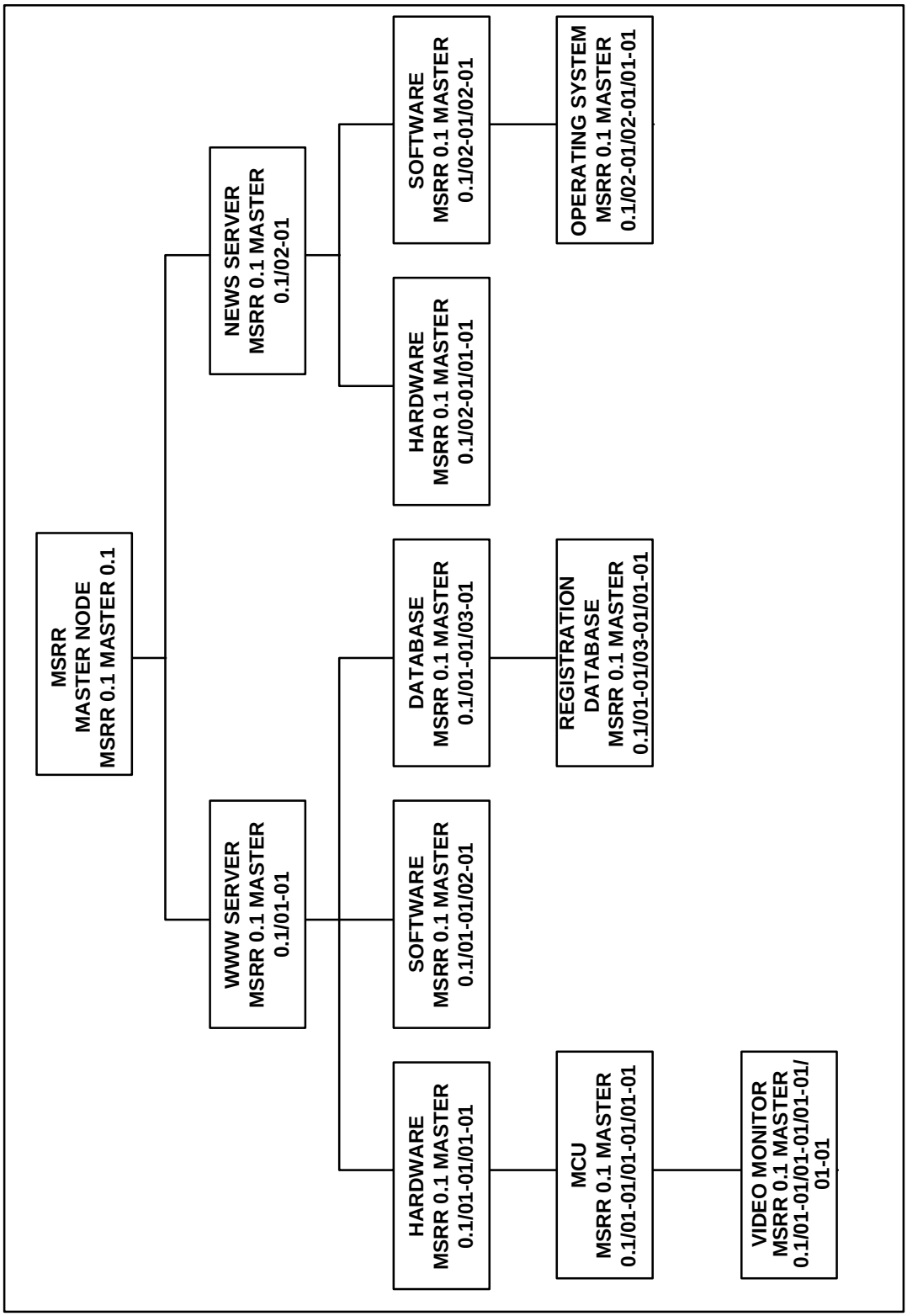


Figure 6-2. Sample HWCI and CSCI Identifiers.

CSCIs, and database will be a two-digit number following and separated from the version number of the Node by a slash (/) to identify the basic CI, followed by another two-digit number separated from the first two digits by a dash (-) to indicate the version number of the CI. For example, the CI identifier for the main computer unit (MCU) HWCI of the WWW server for the first version of the Master Node might be "MSRR 0.1 MASTER 0.1/01-02," indicating that it is the first of the MSRR Master Node's HWCIs or CSCIs to be numbered (/01), and it is the second version (-02) of the MCU. The next subordinate-level component of an HWCI or a CSCI would be identified as "MSRR 0.1 MASTER 0.1/02-01/02-03/01-01," indicating it is the first version (-01) of the first subordinate-level CI to be numbered (/01) (e.g., the Operating System) of the third version of the System Software CSCI (/02-03) on the News Server. Each subordinate level would follow the same scheme, separated from its next higher level CI by a slash mark (/).

6.3 Documentation Identification. Documents, including engineering drawings, under CM control will also be assigned unique identifiers associated with a CI at the appropriate level. The type of document and version number will be included as part of the identifier. For example, the MSRR User's Guide for Version 2.00 of the MSRR would be identified as "MSRR 2.00 UG - 01," denoting that it is the first release (01) of the MSRR User's Guide published for MSRR V.2.00. If a document is associated with a lower level CI, then the document identifier would show association with that lower level CI identifier. For example, a User's Guide for the Navy Node might be identified as "MSRR 2.00 NAVY 2.00 UG - 04," denoting the fourth (04) version of the User's Guide for the second version (2.00) of the Navy Node and MSRR.

6.4 Control of Configuration Identifiers. Procedures for entering and controlling both developmental and delivered baseline CIs and associated documentation in the MSRR CM Library are contained in Sections 8 and 9.

6.5 Commercial and Government Entity (CAGE) Codes. The CAGE code of the organization producing an HWCI (including subordinate parts and assemblies to the lowest level possible) will be physically affixed to the HWCI. The CAGE code will also be entered into all CSCI media and products, and configuration documentation produced by the organization.

SECTION 7

7.0 INTERFACE MANAGEMENT

7.1 Requirement for Interface Management. To ensure compatibility among the various components of the MSRR (e.g., between specific HWCIs and CSCIs within a Node or among multiple Nodes) and with any other systems with which the MSRR interfaces, interface requirements for all pertinent CIs will be identified and will be subject to configuration control.

7.2 CM Interface Control Working Group (CICWG)

a. To ensure effective CM over MSRR CIs that affect the operation of more than one MSRR Node, an MSRR CICWG will be established by EPG. EPG will appoint a CICWG Chairperson as well as the other members of the CICWG. Other members will include permanent representatives from each of the MSRR Project Team organizations that have responsibility for development and maintenance of CIs involved in any interface. Each representative will be called upon as required to resolve any interface issue. Representatives will have authority to commit their organizations to specific interface actions and agreements. If any issues cannot be resolved by the CICWG, they will be brought before EPG for resolution.

b. The CICWG Chairperson will direct the activities of the CICWG and be responsible for:

(1) Coordinating change requests and other relevant matters not requiring a formal CICWG meeting[1]

(2) Scheduling CICWG meetings

(3) Coordinating meeting space and administrative support

(4) Establishing the agenda for the CICWG meetings

(5) Conducting the CICWG meetings

(6) Documenting and reporting results of informal coordination and formal CICWG meetings to the CCB Chairperson and DMSO, as appropriate.

[1] Whenever possible, coordination will be conducted electronically.

SECTION 8

8.0 CONFIGURATION CONTROL

8.1 Purpose. Configuration control procedures are essential for the systematic proposal, justification, evaluation, coordination, approval or disapproval, and implementation of changes to MSRR baselines. Configuration control will be applied to each CI, including documentation. This includes any addition, deletion, or change to a baselined CI that modifies its function, performance, specifications, design, and supporting documentation. See Section 6 for a discussion of CIs and their identifiers.

8.2 Project CM Control. The MSRR CCB will be responsible for the formal processing, disposition, and dissemination of approved changes to established baselines of the MSRR and to the established baselines of the MSRR Nodes should changes to any Node CI affect the operation of the MSRR. The CCB, acting for DMSO, will have final authority to determine the acceptance, rejection, or deferred status of all proposed changes. The CCB will establish the relative priority for implementation of all accepted change requests, and authorize acceptance of all implemented changes leading to FQT and establishment of a new PBL. (See Para 3.3 and App A for further information regarding the CCB and the CCB Charter, respectively.) The FQT Test Director will retain authority to accept a new PBL for delivery to DMSO for final acceptance and distribution. (See Para 4.2 for procedures for establishing a PBL through FQT.)

8.3 Processing of Routine Changes. To maintain control over all changes to CIs, strict CM procedures will be followed. Records of all baseline changes will be maintained in the MSRR CM Library. The PCR form, shown in Appendix B, will be used for initiating, processing, and implementing changes, and will be used in conjunction with a database management system for automated tracking of PCRs and the maintenance and operation of the MSRR Configuration Status Information System (see Sec 9). The PCR form will be made available over the MSRR Home Page for online processing and distribution whenever practicable. Figure 8-1 illustrates the major steps in the processing of routine changes and the following subparagraphs describe these steps:

a. Originator Prepares PCR Request Section. A request for a change to or identification of a problem with an established baseline is initiated. This initial request may originate from DMSO, EPG, Project Team members, Testers, or Users of the MSRR. Items 1 through 5 of the PCR form are completed by the Originator and submitted to EPG for action.

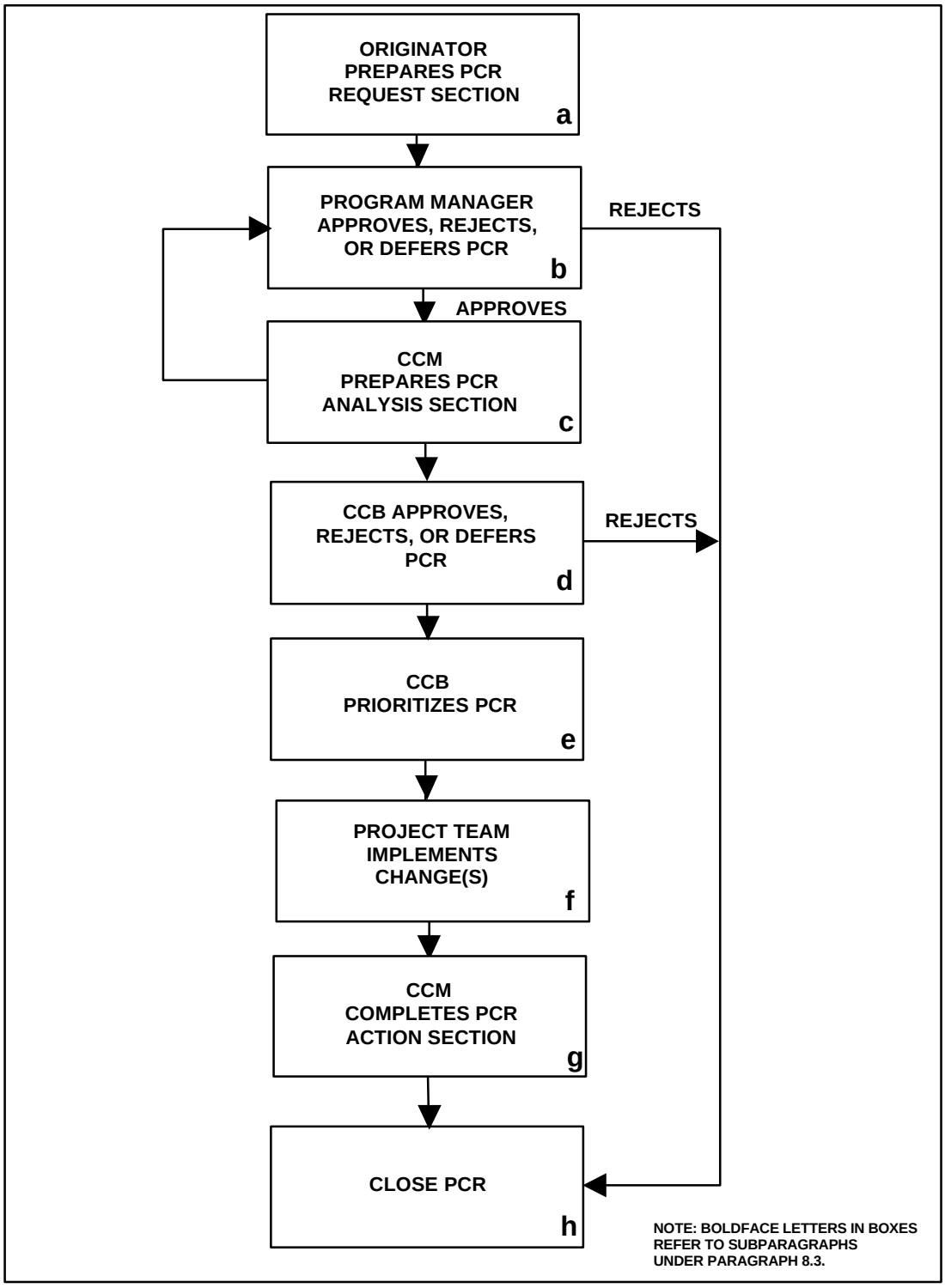


Figure 8-1. Processing of Routine Changes.

b. Program Manager Approves, Rejects, or Defers PCR. CCB approves, rejects, or defers the PCR based solely on the input of the Originator. The PCR might be rejected if the change/problem is of minor significance and potentially high cost, and might be deferred if more information is required (e.g., preparation of the analysis section, Items 6 through 13), or if EPG wants to defer action to the CCB for any reason.

c. CCM Prepares PCR Analysis Section. When EPG so directs, the CCM, obtaining input as necessary from the analyst(s) responsible for the CI(s) involved, prepares an analysis (Items 6 through 13) detailing the affected item(s), a proposed solution, and impacts, if approved. This analysis includes the impact of the proposed change, if approved, on corresponding documentation, training, and hardware or software, as well as an assessment of any impact on hardware or software performance if the proposed change is not approved for implementation.

d. CCB Reviews, Analyzes, Approves, Rejects, or Defers PCR. The CCB Chairperson schedules a CCB meeting to determine the disposition of the PCR, along with any other previously submitted/pending PCRs, and sets the CCB meeting agenda. Prior to the meeting, the CCM ensures distribution of the agenda, PCRs, and any other relevant material to the CCB members and Technical Advisors, as appropriate. The CCB reviews, analyzes, approves, rejects, or defers each PCR that is up for review. For PCRs that are deferred, the CCB assigns a future date at which time those PCRs will be reviewed again. All rejected PCRs are marked "closed" in the PCR tracking system maintained by the MSRR CM Librarian. The status of the PCR actions is maintained in Item 19 of the PCR form. Since PCR status results are published electronically on the MSRR Home Page, Originators and other personnel involved in processing a change can easily check the status of any submitted PCR.

e. CCB Determines Actions and Prioritizes PCR. Each approved PCR is prioritized (and ranked within each priority, if necessary) relative to any other pending or in-progress changes. If a change has a significant impact on cost, schedule, or functional requirements, the CCB may direct that the PCR be converted to an ECP. (See Para 8.6).

f. Project Team Implements Change(s). Upon approval of the PCR by EPG or the CCB, the change to the affected CI(s) is implemented. In the case of changes affecting multiple CIs for which more than one Project Team member/organization is responsible, the Program Manager will coordinate the efforts of all concerned. Should any interface issues arise, the Program Manager will notify the CICWG Chairperson for appropriate CICWG action to be taken (see Sec 7) in relation to implementation of the PCR.

g. CCM Completes PCR Action Section. Upon completion of changes (including QC auditing and independent testing), the CCM completes the PCR action section (Items 14 through 18) and submits the PCR, along with the implemented changes, to the Program Manager. The changes are then incorporated into the next scheduled modification or new release for FQT and subsequent delivery to DMSO for approval and fielding.

h. CCB and MSRR CM Librarian Close PCR. Following successful testing and acceptance of the change(s) by the CCM, the completed PCR is returned to the CCB for review at the next meeting, and then to the MSRR CM Librarian for closure. Closure action includes final entry in the automated PCR tracking system. The Originator is informed of the closure.

8.4 Processing of Emergency Changes. If a critical error is reported to the MSRR Help Desk for a system that has been placed under CM, it may be necessary to conduct an emergency PCR process to correct the problem and expeditiously distribute a new baseline update to all Users. The emergency PCR will have the highest priority over nonemergency PCRs being processed. Figure 8-2 illustrates the process used to control an emergency change, and the following paragraphs describe the associated steps in this process.

a. Originator Prepares PCR Request Section. Based on an identified critical error, a PCR to change an established baseline is initiated. This request may originate from DMSO, EPG, members of the Project Team, Testers, or Users. This request may be submitted verbally; the MSRR CM Project Team will complete the PCR request section (Items 1 through 5) and forward the PCR immediately to the CCB Chairperson, with simultaneous copies to EPG and, if known, to the Project Team member(s) responsible for maintaining the affected CI(s).

b. CCB Chairperson Approves, Rejects, or Defers PCR. The CCB Chairperson reviews the request and has the authority to approve immediate implementation of the emergency PCR if it is believed that implementation cannot reasonably wait for review and approval by a meeting of the CCB. CCB action on an emergency change will be taken within 48 hours from the time the PCR request section is received by the CCB Chairperson. If the CCB Chairperson approves the PCR, the CCB Chairperson ensures distribution of copies to the CCM and to the Project Team member(s) responsible for the CI(s). If the emergency PCR is deferred, normal procedures for processing deferred PCRs through the CCB are followed. If the PCR is rejected, it is submitted to the CCB and CM Librarian for closure. The originator is informed of the closure and PCR rejection.

c. CCM Prepares Analysis Section. For approved emergency PCRs, the CCM coordinates a preliminary analysis of the proposed change with all concerned and submits the preliminary analysis on the PCR analysis section (Items 6 though 13) to the Program Manager for forwarding to the CCB Chairperson. The preliminary analysis includes the affected item(s), a proposed solution, and impacts. The emergency PCR may also be deferred or rejected at this time by the CCB Chairperson. If the emergency PCR is deferred, normal CCB procedures for processing deferred PCRs will be followed. If the PCR is rejected, it is submitted to the CCB and MSRR CM Librarian for closure and the Originator is notified.

d. Project Team Implements Change(s). For PCRs approved by the CCB Chairperson, the change is implemented. In the case of a change affecting multiple CIs for which more than one Project Team member is responsible, the Program Manager will coordinate the efforts of all concerned. Should any interface issues arise, the Program Manager will notify the CICWG

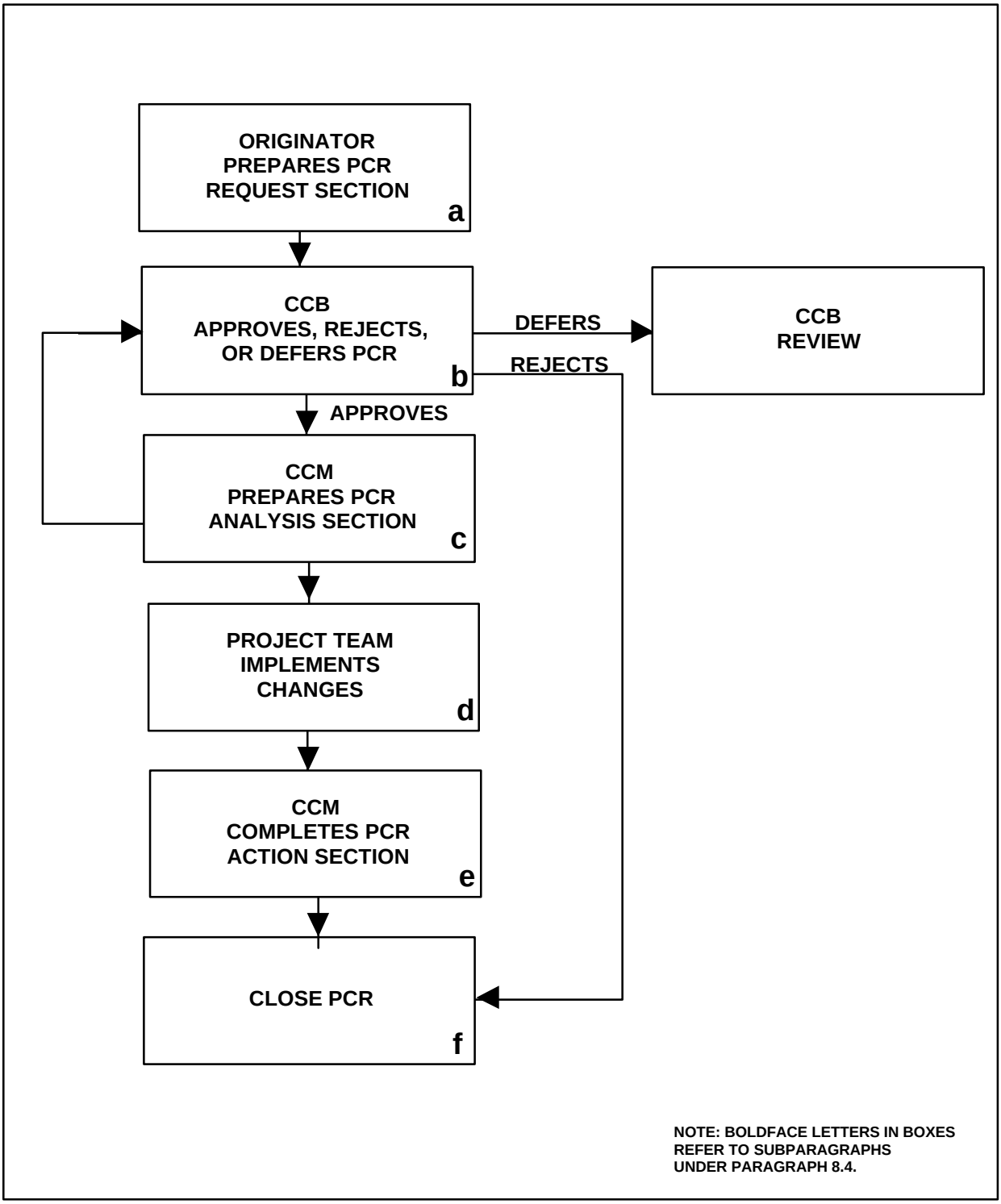


Figure 8-2. Processing of Emergency Changes.

Chairperson for appropriate CICWG action for emergency implementation (see Sec 7). The Program Manager will implement the approved change, following procedures for QC and independent testing.

e. CCM Completes PCR Action Section. Upon completion of changes to the system, the CCM completes the PCR action section (Items 14 through 18), modifying the preliminary analysis if necessary, and submits the PCR and changes to the Program Manager for forwarding to the CCB for review.

f. CCB and CM Librarian Close PCR. Following closure by the CCB, the completed PCR is returned to the CCM, and then to the MSRR CM Librarian for closure. The Originator is notified of the closure.

8.5 Recording of Change Control Information. The CCM will be responsible for ensuring that the information associated with the implementation of all changes is captured and stored in either hardcopy or electronic copy. As a minimum, this information will include the following

a. PCR (request, analysis, and action sections and attachments)

b. Date implemented

c. Date approved

d. Person and organization responsible for approval

e. Person and organization responsible for implementing the change

f. List of changes to each CI affected

g. Document change pages of documents

h. Components/subcomponents of the CI affected

i. Test plans and results.

Additional information related to the change implementation, such as the identification of any supporting software used to implement the change, may be included.

8.6 ECPs. When required for changes to a CI, the CCM will prepare an ECP for submission to DMSO. The CCB determines whether to convert a PCR to an ECP if the change will have a significant impact on the cost or scheduled delivery of a baseline or a change in functional requirements. The necessary forms for submitting an ECP are contained in Appendix B.

8.7 Requests for Deviations/Waivers. If any deviation from or any waiver for meeting a CM requirement in this CMP is desired, written authorization must be obtained from DSMO through EPG. Procedures for obtaining authorization for a deviation or waiver are contained in MIL-STD-973.

SECTION 9

9.0 CONFIGURATION STATUS ACCOUNTING

9.1 Purpose. The purpose of CSA is to ensure accurate identification of each CI and delivered system component so that the necessary logistics support can be provided to developers. CSA entails capturing information in a repository to support CM in the areas of CM control, configuration identification, and configuration audits.

9.2 Project CSA. CSA will be performed in conjunction with the project configuration control described in Section 8. CSA will provide configuration identification, baseline establishment, product release, and formal change records for each hardware, software, and documentation CI issued.

9.3 MSRR CM Library

The primary agent for maintaining CSA information is the MSRR CM Library. The MSRR CM Library will also be the repository for all controlled configuration documentation, software technical manuals, training material, software disks/tapes, etc. The following forms, shown in Appendix B, will be used to document and track the CM processes for establishing baselines; requesting, approving, and implementing changes; and releasing products. The blank templates and completed CM forms will be maintained in the MSRR CM Library, whether in hardcopy or electronic media.

a. Problem and Change Report Form. This form will be used in the change control process described in Section 8.

b. Engineering Change Proposal Form. This form will be used when a PCR is converted to an ECP when directed by the CCB.

c. Configuration Management Library Request Form. This form will be used to request the MSRR CM Librarian to take a specified action regarding a CI that is in the MSRR CM Library; e.g., adding, deleting, or updating something in a CI, or archiving or retrieving a CI from the MSRR CM Library.

d. Retrieve Working Copy Request Form. This form will be used to request a copy of approved software or documentation from the MSRR CM Library for use as a working copy to make changes to a baseline. This form must be accompanied by a Reserve/Unreserve List Form and the PCR or ECP that authorizes the change.

e. Reserve/Unreserve List Form. This form will be used to place an item on the MSRR CM Library's temporary reserve list during implementation of a change. It will accompany a Retrieve Working Copy Request Form.

f. Configuration Management Library Product Request Form. This form will be used to request delivery of baselined products from the MSRR CM Library that are needed to build or install a baseline by a User.

9.4 Configuration Status Information System. An automated Configuration Status Information System will be used to facilitate effective recording and reporting of CM activities. The three computer-based databases listed below will be used to store various types of information. In conjunction with the databases, computer software will be used to process and report configuration status information. The MSRR CM Librarian will maintain these databases and produce reports as required.

9.4.1 CI Database. When a CI is submitted to the MSRR CM Library, the MSRR CM Librarian will enter the following information into the CI Database:

a. CI Identifier

b. CI Name

c. CI Description

d. CI File Type

e. Date Submitted

f. Originator's Name and Organization

g. CI Location

h. Sites release sent to

i. Other data items, as needed.

This database will be used to prepare a CI inventory report as needed.

9.4.2 Configuration Change Control Database. When any type of CI has been processed according to configuration control procedures to the point that the information must be recorded, the MSRR CM Librarian will enter the following data into the Configuration Change Control Database:

a. PCR ID Number

b. CI Name

c. CI Identifier

d. Change Category (e.g., problem, enhancement, update)

e. Change Description

f. Date Requested

g. Originator's Name and Organization

h. Status

i. Status date

j. Responsible Project Team member

k. User priority

l. CCB priority

m. Other data items as needed.

This database will be used to effectively track and verify the status of a PCR. Combined with the CI Database, it allows the change history of a CI to be maintained and reported quickly.

9.4.3 Submittal/Release Database. This database will contain the following information in regard to CI submittal or release requests:

a. PCR ID Number

b. CI Type

c. CI Name

d. CI Description

e. CI Identifier

f. Requester's Name and Organization

g. Platform and operating system

h. Date requested/submitted/released

i. Submittal/Release Authorization

j. Other data items as needed.

This database facilitates ensuring that all authorized recipients of CI baselines are furnished with changes to the baselines when they are accepted into the MSRR CM Library.

9.5 Configuration Status Accounting Reporting. The following CSA reports will be prepared, as appropriate, to assist in controlling CI changes. These reports will be made available through the MSRR Home Page.

a. CI Inventory Report - Listing of all CIs

b. Configuration Change Status Report - Listing of all proposed changes

c. Configuration Change Record Report - Listing of CI inventory with associated PCR activities

d. CI Submittal Report - Listing of all submittals to the MSRR CM Library

e. CI Release Report - Listing of all releases and to whom distributed

f. Other reports in response to User inquiries.

SECTION 10

10.0 CONFIGURATION AUDITS. Two types of software configuration audits will be conducted: the Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA). Software configuration audits may be performed concurrently at any time or at separate times during the development process either by the Program Manager, CCM, or Technical Advisor, and by Testing Personnel during FQT as a prerequisite for accepting a PBL.

10.1 FCA. The FCA is performed to ensure that the product to be delivered meets the documented functional requirements. The FCA is a formal review and summary of the test report data and a comparison to requirements documents. When an FCA is required, the CCM has the following responsibilities:

a. Prepare and distribute agenda

b. Provide copies of requirements documents

c. Identify and describe all CIs to be audited

d. Identify any authorized deviations and waivers

e. Identify any outstanding change requests

f. Provide documentation of test results

g Compile minutes of the audit, including any corrective action required.

10.2 PCA

a. The PCA is performed by examining the software code and documents to ensure that they represent the item tested. A PCA will be performed prior to submitting any software or document for acceptance into the MSRR CM Library. Personnel conducting a software PCA must be other than the Software Engineer(s) directly responsible for development of the software. The software development team may assist during the PCA.

b. The CCM will ensure that all forms and any other appropriate paperwork associated with the audit are available for the PCA audit team.

c. A PCA may include reviews of any of the following:

(1) Design descriptions for convention and adherence to standards as well as completeness and consistency with any software code

(2) Engineering drawings

(3) User documentation for format, completeness, and consistency with the software

(4) Software media (disks, tape, etc.) to ensure that they meet standards and contract requirements

(5) Source code listings for coding standards

(6) Source code and compilation scripts to ensure that they produce the executable that was tested.

SECTION 11

11.0 CONTRACTOR/VENDOR CONTROL. All contractors supporting MSRR development, maintenance, or operation must adhere to the CM requirements specified in this CMP for CM of their MSRR efforts. If, for some specific reason, a contractor wishes to publish supplemental CM policies, procedures, or standards, this CMP should be used as a guideline. Any resulting CMP must be submitted to EPG for approval. If a contractor wishes to deviate from any requirements specified by this CMP, the contractor must have written approval from DMSO to do so. Procedures for obtaining authorization for a deviation are contained in MIL-STD-973. Vendors for COTS software used in MSRR need not submit a CMP to DMSO.

SECTION 12

12.0 ACRONYMS AND ABBREVIATIONS

12.1 List of Acronyms and Abbreviations

ABL	Allocated Baseline
ACD	Allocated Configuration Documentation
CAGE	Commercial and Government Entity
CCB	Configuration Control Board
CCM	Configuration Control Manager
CI	Configuration Item
CICWG	Configuration Management Interface Control Working Group
CM	Configuration Management
CMP	Configuration Management Plan
COTS	commercial off-the-shelf
CSA	Configuration Status Accounting
CSCI	Computer Software Configuration Item
DMSO	Defense Modeling and Simulation Office
DOD	Department of Defense
ECP	Engineering Change Proposal
email	electronic mail
EPG	Electronic Proving Ground
FBL	Functional Baseline
FCA	Functional Configuration Audit
FCD	Functional Configuration Documentation
FOC	Final Operating Capability
FQT	Formal Qualification Testing
HWCI	Hardware Configuration Item
IAW	in accordance with
IDC	Information Domain Coordinator
IOC	Initial Operating Capability
M&S	modeling and simulation
MCU	main computer unit
MSMP	Modeling and Simulation Master Plan
MSRR	Modeling and Simulation Resource Repository
NAWG	Node Administrator Working Group
PBL	Product Baseline
PCA	Physical Configuration Audit
PCD	Product Configuration Documentation

PCR	Problem and Change Report
PMO	Program Management Office
QC	Quality Control
VV&A	Verification, Validation, and Accreditation
VV&C	Verification, Validation, and Certification
WWW	World Wide Web

SECTION 13

13.0 DEFINITIONS OF TERMS

13.1 List of Terms and Definitions

Accreditation. The official certification that a model or simulation is acceptable for use for a specific purpose.

Allocated Baseline (ABL). The initially approved documentation describing an item's functional, interoperability, and interface characteristics that are allocated from those of a system or a higher level configuration item (CI).

Allocated Configuration Documentation (ACD). Documentation describing a CI's functional, performance, interoperability, and interface requirements that are allocated from those of a system or higher level CI.

Certification. The determination that data have been verified and validated.

Commercial and Government Entity (CAGE) Code. A five-position alphanumeric code assigned to U.S. and Canadian organizations that manufacture and/or control the design of HWCIs or CSCIs supplied to a Government military or civilian agency.

Commercial Off-the-Shelf (COTS) Software. A software item produced and placed in stock by a distributor before receiving orders or contracts for its sale.

Computer Software Configuration Item (CSCI). An aggregation of software that satisfies an end-use function and is designated for separate configuration control. CSCIs are selected based on tradeoffs among software function, size, host or target computers, developer, support concept, plans for reuse, criticality, interface considerations, need to be separately documented and controlled, and other factors.

Configuration. In the context of CM, the functional and physical characteristics of existing or planned products (hardware, firmware, software, or documentation) as specified in documentation and ultimately achieved in a product.

Configuration Audit. The verification of a CI's conformance to specifications, drawings, and other contract requirements.

Configuration Control. The systematic processing of changes to a configuration and its identification documents.

Configuration Control Board (CCB). The governing body for all issues associated with CM. The size of the software project will dictate the CCB membership and organization. Large projects may need multiple CCBs, each with a focus area (e.g., hardware, software, database, subsystem, etc.)

Configuration Item (CI). An aggregation of hardware, software, or both that satisfies an end-user function and is designated for separate configuration control by the acquirer.

Configuration Management (CM). The discipline of applying technical and administrative direction to CIs over their life-cycle. Activities include:

a. Identify and classify CIs by functional and physical characteristics.

b. Control (propose, justify, evaluate, coordinate, and approve or disapprove) changes to CIs and their support documentation.

c. Record and report information needed to manage CIs effectively. The information includes status of proposed changes and implementation status of approved changes.

d. Audit CIs to verify conformance to specifications, drawings, interface control, and other contract requirements.

Configuration Management (CM) Library. A controlled collection of software, documentation, and associated tools and procedures used to facilitate the orderly development and subsequent support of software.

Configuration Management Interface Control Working Group (CICWG). The governing body that controls interface activity among developers, including resolution of interface problems and documentation of interface agreements.

Configuration Status Accounting (CSA). The activity of recording and reporting information needed to manage CIs effectively. The information includes:

a. The status of proposed changes, deviations, and waivers to the configuration.

b. The implementation status of approved changes.

c. A record of the approved configuration documentation and identification numbers.

d. The configuration of all units of the CIs in the product inventory.

Deviation. A specific written authorization, granted prior to the manufacture of an item, to depart from a particular requirement of an item's current approved configuration documentation for a specific number of units or a specific period of time.

Engineering Change Proposal (ECP). A proposed change, to resolve a PCR, to the current approved hardware or firmware configuration and the documentation by which the change impacts the cost, schedule, or established baseline is described, justified, and submitted for approval or disapproval.

Final Operating Capability (FOC). The objective system to be released for full operational use. The FOC follows and builds upon the Initial Operating Capability (IOC) until the desired product is achieved.

Formal Qualification Testing (FQT). The formal examination of a system to determine whether the system meets documented functional, interoperability, and interface requirements.

Functional Baseline (FBL). The initially approved documentation describing a system's or an item's functional, interoperability, and interface characteristics.

Functional Configuration Audit (FCA). The formal examination of functional characteristics of a CI, prior to acceptance, to verify that the item has achieved the requirements specified in its functional and allocated configuration documentation.

Functional Configuration Documentation (FCD). Documentation describing a system's functional, performance, interoperability, and interface requirements.

Hardware Configuration Item (HWCI). An aggregation of hardware and/or firmware that satisfies a specified function and is designated for separate CM. Each higher level HWCI is partitioned into subcomponents as necessary to ensure effective CM.

Initial Operating Capability (IOC). The first PBL release of a system with capabilities that are acceptable for operations, but that are expected to be improved upon, and leading to Final Operating Capability (FOC).

Interface Control. The process of (1) identifying all functional and physical characteristics relevant to the interfacing of two or more CIs, and (2) ensuring that proposed changes to these characteristics are evaluated and approved prior to implementation.

Model. A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

Modeling and Simulation (M&S). Use of models and simulators, either statistically or over time, to develop data as a basis for making managerial or technical decisions.

Modeling and Simulation Master Plan (MSMP). A Department of Defense (DOD) plan that establishes short-term (present to 6 years) and long-term (beyond 6 years) goals and objectives for the application of M&S for joint or common use within the DOD.

Modeling and Simulation Resource Repository (MSRR). The physical location(s) or site(s) at which M&S resources are kept and made available to Users.

Physical Configuration Audit (PCA). The formal examination of the software code and associated documents to ensure that they represent the software that was tested.

Problem and Change Report (PCR). A proposed change to one or more CIs and the documentation by which the change is described, justified, and submitted for approval or disapproval.

Product Baseline (PBL). Hardware, firmware, software, databases, and associated documentation established at the time of a system release after FQT has been successfully completed.

Program Management Office (PMO). An organization designated by the sponsor of a project to conduct day-to-day management of the project.

Quality Control (QC). The process of providing control over the development of a product to ensure that it conforms to established quality requirements.

Release. A specific distribution of or authorization to use a configuration baseline.

Simulation. A method for implementing a model over time.

User's Guide (UG). A document that assists a user of a system in installing and/or operating the system.

Version Number. A unique identifier that denotes a specific configuration baseline release.

Validation. The process of determining the degree to which a model is an accurate representation of the real world from the perspective of the intended uses of the model.

Verification. The process of determining that a model implementation accurately represents the developer's conceptual description and specifications.

Waiver. Written authorization to accept an item which is found to depart from specified requirements, but nevertheless is considered suitable for use "as is" or after repair by an approved method.

APPENDIX A

CHARTER FOR THE MODELING AND SIMULATION RESOURCE REPOSITORY CONFIGURATION CONTROL BOARD

CHARTER FOR THE MODELING AND SIMULATION RESOURCE REPOSITORY CONFIGURATION CONTROL BOARD

1. General. A Configuration Control Board (CCB) is hereby established to provide a means of controlling, evaluating, and maintaining changes to the Modeling and Simulation Resource Repository (MSRR) baseline.

2. Authority. The MSRR CCB is established by the Defense Modeling and Simulation Office (DMSO). The Chairperson of the MSRR CCB will be appointed from the US Army White Sands Missile Range, Electronic Proving Ground (EPG) Program Management Office (PMO). The CCB will review and prioritize Problem and Change Reports (PCRs), and determine the suitability of all changes for incorporation into the MSRR baseline releases.

3. MSRR CCB Membership. The MSRR CCB membership will consist of one designated representative from each of the following organizations, each having one vote and being vested with full authority to represent their respective organizations:

a. The Chairperson of the MSRR CCB will be a representative under the auspices of DMSO.

b. One member and one alternate will be designated from each of the following organizations:

(1) DMSO

(2) EPG

(3) US Army

(4) US Navy

(5) US Air Force

(6) US Marine Corps

(7) Joint Simulation System Joint Project Office (JSIMS JPO)

(8) Master Environmental Library (MEL)

(9) Modeling and Simulation Operational Support Activity (MSOSA)

(10) Distributed Interactive Simulation Support Group (DISSG).

c. Designated Members, both primary and alternate, will be identified by name, position, office symbol, phone number, and email address. The alternate member will not cast a vote, except in the absence of the primary member.

d. Existing MSRR working groups may be called upon, or ad hoc technical panels may be formed, to examine matters requiring special or extensive expertise to aid the CCB in reaching a decision. Individual Technical Advisors may be invited by any member to participate in CCB meetings for assisting in the evaluation of a particular change proposal or issue.

4. Responsibilities

4.1 MSRR CCB. The CCB has the following responsibilities:

a. Establishing CM policies and procedures.

b. Directing and coordinating the implementation of CM policies and procedures.

c. Reviewing, validating, prioritizing, and controlling proposed changes to baselines.

d. Controlling PCRs, including opening the PCRs, assigning PCR numbers, assigning PCRs to the appropriate organization(s) for investigation, prioritizing PCRs for resolution, resolving or determining workarounds to problems, and closing PCRs.

e. Determining the contents and suitability of changes for incorporation into a new baseline for release.

f. Ensuring that configuration control documents are kept up to date along with implemented changes to the baseline.

g. Ensuring that proposed changes to configuration items are limited to those necessary to correct deficiencies, satisfy changes in operational capability, affect substantial life-cycle cost savings, maintain security, or prevent slippage in an approved schedule of baseline evolution.

4.2 Chairperson. The Chairperson casts a vote only in the event of a tie vote by the other members. The Chairperson has the following responsibilities:

a. Convenes and presides over CCB meetings.

b. Moderates CCB meetings, providing an opportunity for each representative to contribute to discussions.

c. Resolves disagreements and ensures the resolution of all outstanding issues.

d. Ensures that one of the following courses of action is established for each PCR:

(1) Approve as written.

(2) Approve with specific changes.

(3) Combine with another PCR.

(4) Defer for further investigation.

(5) Reject and close with no action.

e. Maintains a roster of current CCB members.

f. Ensures that PCRs are distributed in advance of scheduled CCB meetings to CCB members and Technical Advisors, as appropriate, for evaluation.

g. Elicits the position of all designated CCB members and ensures that the decisions of the CCB are included in the CCB meeting minutes.

h. Ensures that CCB meeting minutes and related documentation are prepared and distributed to CCB members and others as appropriate.

4.3 Designated Members. The Designated Members have the following responsibilities:

a. Attend CCB meetings (primary or alternate).

b. Have full decision authority for each member's respective organization.

c. Evaluate each PCR, as required, to make an approval/disapproval recommendation to the CCB Chairperson.

d. Coordinate CCB decisions, as required, within each respective organization to ensure appropriate follow-up actions and dissemination of relevant information such as cost and schedule impacts.

e. Identify problems to the CCB Chairperson that could impact the MSRR program.

f. Recommend to the CCB Chairperson that a special ad hoc technical panel be formed to provide input to a PCR evaluation and/or technical personnel be invited to a CCB meeting.

g. Vote on all PCRs and CCB issues.

h. Monitor the accomplishment of actions assigned to each representative's organization, and notify the CCB Chairperson of any departure in planned cost, schedule, or technical need.

4.4 Ad Hoc Members. Ad Hoc Members will have the same responsibilities as Designated Members (Para 4.3., above), except that they will not have voting authority.

4.5 Technical Advisors. Technical advisors to the CCB are responsible for ensuring that presentations made to the CCB include the following information:

a. A description of the problem in nontechnical terms insofar as practical.

b. A recommendation, along with justification, of whether a proposed change is or is not necessary.

c. Estimated cost and schedule impacts of a proposed change.

d. A description of how and when the proposed change will be implemented .

e. Identification of any documentation that will be impacted by the change.

f. A recommendation of implementation priority to be assigned to the change if the change is accepted by the CCB.

g. Recommended workarounds or alternative solutions to the problem.

h. The impact of deferring, rejecting, or delaying a proposed change.

5. Meetings. CCB meetings will be held as required by the number and scope of changes, or at the request of three or more Designated Members. A meeting need not be one in which members are present in the same location, but may be and should be, whenever practical, conducted electronically. The CCB Chairperson will decide which method to use for a meeting. In either case, a quorum for a meeting will consist of five or more members. All issues will be acted upon by the majority of those members who are present and/or those members providing votes electronically.

6. Amendments and Modifications. Proposed amendments and modifications to this MSRR CCB Charter will be submitted to the organizations of each Designated Member and other organizations, as appropriate, for comment and recommendation, and will be reviewed and voted upon by all voting CCB members. Amendments and modifications will be accepted and directed by the CCB Chairperson upon concurrence by a simple majority of all voting members.

APPENDIX B

CONFIGURATION MANAGEMENT FORMS

PROBLEM AND CHANGE REPORT FORM

PROBLEM and CHANGE REPORT

(Directions on back)

EO: _____
WAC: _____
PCR ID NO: _____

1. ORIGINATOR NAME:	2. DATE:	3. SYSTEM OR TASK NAME:

4. PROBLEM/CHANGE NAME:

5. PROBLEM/CHANGE DESCRIPTION: *(Continuation sheet attached ☐)*

6. *Circle one:* PROBLEM | PROPOSED CHANGE. *Check all items affected (see definitions on back):*	7. PRIORITY: *(See definitions on back)*
☐ Software ☐ Hardware ☐ Documentation ☐ Design ☐ Data	1 2 3 4 5

8. NAME/CMID/VERSION FOR AFFECTED ITEMS: *(Continuation sheet attached ☐)*

9. RECOMMENDED SOLUTION/ALTERNATIVES: *(Continuation sheet attached ☐)*

10. IMPACTS: *(If solution is implemented and if not implemented. Continuation sheet attached ☐)*

11. ANALYST:	12. DATE COMPLETED:	13. LABOR HOURS: ANALYSIS:

14. IMPLEMENTED SOLUTION/RETEST PROCEDURE: *(Continuation sheet attached ☐)* WAC:

15. IMPLEMENTER:	16. DATE COMPLETED:	17. LABOR HOURS: IMPLEMENT: RETEST:

18. NAME/CMID/VERSION OF ITEMS UPDATED: *(Continuation sheet attached ☐)*

19. PCR STATUS/ACTIVITY:

	Initial & Date
a. OPEN/INITIALIZE -- Begin PCR processing. (CMO)	/
b. OPEN/VERIFY -- Authorize verification. (PCRRB)	/
c. OPEN/ANALYZE -- Authorize analysis. (PCRRB)	/
d. OPEN/ECP -- Convert to ECP No.: _____ (PCRRB/CCB)	/
e. OPEN/IMPLEMENT -- Approve solution. Authorize implementation. (PCRRB/CCB)	/
f. OPEN/TEST -- Perform testing. (PCRRB/CCB)	/

g. BASELINE UPDATE -- Version Id.: _____ (CMO)	_____/_____
h. CLOSED -- PCR rejected or suitably resolved. Authorize PCR closure. (PCRRB/CCB/CMO)	____/____/____

PROBLEM and CHANGE REPORT DIRECTIONS

A Problem and Change Report (PCR) is submitted by anyone who identifies a problem or a needed change that potentially impacts software, hardware, documentation, or data for a Configuration Item (CI) that is under Configuration Management (CM) control.

Responsibility	Items to be completed in the form
Originator of PCR	Items 1 through 5.
Analysis Team assigned by PCR Review Board (PCRRB)	Items 6 through 13.
Implementation/Retest Team assigned by TM	Items 14 through 18.
CM Organization (CMO)	Enter EO, WAC, PCR ID No., items 19.a, 19.g and 19.h
PCR Review Board (PCRRB Chair/Task Manager)	Items 19.b through 19.f, 19.h.
Configuration Control Board (CCB Chair)	Items 19.d through 19.f, 19.h.

Definitions:

1. PROBLEM | PROPOSED CHANGE(Block 6) - Circle either "Problem" or "Proposed Change." Then, check boxes for all affected items. Problem categories are defined as follows:

    a. SOFTWARE PROBLEM - The software does not operate according to supporting documentation and the documentation is correct.
    b. HARDWARE PROBLEM - The hardware does not operate according to supporting documentation and the documentation is correct.
    c. DOCUMENTATION PROBLEM - The software or hardware does not operate according to supporting documentation but the software or hardware operation is correct.
    d. DESIGN PROBLEM - The software or hardware operates according to supporting documentation but (1) a design deficiency exists or (2) a proposed enhancement will result in increased/improved capabilities that are more cost-effective, efficient, time-saving, state-of-the-art, or some combination of these.
    e. DATA PROBLEM - A data file has missing or incorrect data.
2. PRIORITY(Block 7) - Specify problem priority defined as follows:

    a. PRIORITY 1 - A software, hardware, or data problem that (1) prevents the accomplishment of an operational or mission-essential capability specified by baseline requirements, (2) prevents the operator's accomplishment of an operational or mission-essential capability, or (3) jeopardizes personal safety.
    b. PRIORITY 2 - A software, hardware, or data problem that adversely affects either the accomplishment or the operator's accomplishment of an operational or mission-essential capability specified by baseline requirements so as to degrade performance and for which **no alternative workaround solution is known**.
    c. PRIORITY 3 - A software, hardware, or data problem that adversely affects either the accomplishment or the operator's accomplishment of an operational or mission-essential capability specified by baseline requirements so as to degrade performance and for which **an alternative workaround solution is**

known.

d. PRIORITY 4 - A software, hardware, or data problem that is an operator inconvenience or annoyance and which does not affect a required operational or mission-essential capability.
e. PRIORITY 5 - All other problems or changes.

PROBLEM and CHANGE REPORT

PCR ID NO: _____

Continuation Sheet

SHEET _____ of _____

1. ORIGINATOR NAME:	2. PROBLEM/CHANGE NAME:

(Enter block number and continuation data)

ENGINEERING CHANGE PROPOSAL FORM

ENGINEERING CHANGE PROPOSAL

(Directions on back)

Associated PCR ID No:_____ **ECP ID No:_____**

1. ORIGINATOR/PHONE NO:	2. DATE SUBMITTED:
3. CLASSIFICATION: ☐ Class I ☐ Class II	4. PRIORITY: ☐ Routine ☐ Critical
5. SYSTEM/TASK NAME:	EO:_____ WAC:_____
6. BASELINE(s) AFFECTED: ☐ Functional ☐ Allocated ☐ Product ☐ Developmental	
7. SPECIFICATIONS/DOCUMENTS AFFECTED: *(Continuation sheet attached ☐)* System: _____ Development: _____ Product: _____	8. DRAWINGS AFFECTED: *(Continuation sheet attached ☐)* _____ _____ _____
9. LIST ANY OTHER SYSTEMS/CIs AFFECTED BY THIS ECP THAT WILL REQUIRE SUBMITTAL OF SEPARATE, RELATED ECPs FOR EACH: *(Continuation sheet attached ☐)*	
10. TITLE OF PROPOSED CHANGE (brief):	
11. NAME OF CI(s) AFFECTED BY THIS ECP: *(Continuation sheet attached ☐)* _____ _____	12. ARE THE CI(s) STILL IN DEVELOPMENT/PRODUCTION? ☐ Yes ☐ No ☐ Not Applicable
13. FOR EACH CI, LIST ALL LOWER LEVEL ITEMS/PARTS/UNITS AFFECTED: (*Continuation sheets attached ☐*)	
14. DETAILED DESCRIPTION OF PROPOSED CHANGE: *(Continuation sheets attached ☐)*	
15. EXPLAIN/JUSTIFY NEED FOR THE CHANGE: *(Continuation sheets attached ☐)*	
16. ESTIMATED IMPACT ON TASK COMPLETION/DELIVERY SCHEDULE:	17. ESTIMATED COST/SAVINGS IMPACT ON TASK BUDGET:
18. SUBMITTAL AUTHORIZATION: _____ / / Configuration Control Board Chairperson Date _____ / / Program Manager Date	
19. IMPLEMENTATION OF **CLASS I** CHANGE: ☐ Approved ☐ Disapproved _____ / / Contracting Officer's Representative Date	20. IMPLEMENTATION OF **CLASS II** CHANGE: ☐ Approved ☐ Disapproved _____ / / Test Officer Date

ENGINEERING CHANGE REPORT DIRECTIONS

An Engineering Change Proposal (ECP) is prepared by the Task Manager/ team and submitted through proper channels to the client for approval/disapproval when the Configuration Control Board (CCB) determines that a proposed change affects cost, schedule, and/or an established baseline for a task. The ECP form, with the associated Problem and Change Report (PCR) form and any supporting materials attached, is the means used by the contractor to provide information to the client to completely describe and justify all possible impacts the suggested change can have. In general, impact analysis should include consideration of implementation versus nonimplementation with regard to cost, schedule, preliminary and detail design, development/technical risk, logistics support, management, operational capabilities, and interface changes as applicable. If more than one unrelated engineering change is being proposed, then a separate ECP is submitted for each proposal.

Information for ECP items may be continued on Continuation Sheets as necessary by entering the item number and then entering the additional information. The following list is a description of the type of information needed for each ECP item:

1./2. Name/phone number of the Task Manager/team member responsible for handling the proposed change, and the date the ECP is submitted.

3. A **Class I** change is any change to an established baseline that affects system/subsystem functionality, performance, cost, or schedule. A **Class II** change is any change that is **not** a Class I change. It does not affect functionality or performance requirements of a baseline and it can be accomplished within current cost and schedule limits.

4. **Critical** priority is assigned to an ECP to effect a change or correct a condition which, if not accomplished expeditiously, may prevent or, at least, seriously impede achievement of the task objectives (including cost and schedule). **Routine** is assigned to an ECP when Critical is **not** applicable.

5. Name or designation for the task, system, or top-level CI to which the ECP applies.

6./7./8. Identify all baselines, specifications/documents (grouped by system, development, and product levels), and drawings (for hardware CIs) affected specifically by the changes in this ECP.

9. List other systems/CIs that are affected, but their changes are not addressed in this ECP.

10./11. A brief descriptive title for the proposed change; the name of each CI affected by the changes in this ECP.

12. **Yes** if deliveries for the task have not been completed; **No** if deliveries have been completed. Status of deliveries may affect estimated impacts on cost and schedule (see Items 16 and 17).

13. For hardware, list name and number of part(s) without resorting to such terms as "numerous bits and pieces." For software, list name of each computer software unit affected.

14. Include the purpose and the description of the proposed change in sufficient detail to adequately describe what is to be accomplished. Identify the exact part or item of the system or CI to be changed. Supplemental drawings, sketches, and other descriptive materials are provided to the extent necessary to clearly portray the proposed change. State whether the proposed change is an interim solution.

15. Fully explain the need for the change, including specifically identifying the benefit of the change to the client. Describe the nature of the defect, failure, incident, malfunction, etc., that substantiates the need for the change. Use quantitative terms to describe new performance capabilities provided. Attach any documentation establishing requirements for the change. Cite the authority if the ECP is in response to the client's request.

16./17. Estimated completion/delivery schedule of items incorporating change contingent upon date of ECP approval. Estimated costs/savings impact of the ECP on the existing task budget, if any. (Savings are shown in parentheses.)

18. The CCB reviews the ECP for adequacy and completeness. The CCB Chairperson signs and dates the ECP to indicate CCB approval. The Program Manager (PM) signs and dates the ECP to officially authorize its formal submittal to the client for consideration.

19./20. The client uses these two items to approve or disapprove implementation of the changes proposed in the ECP. **All Class I ECPs** require approval or disapproval by the Contracting Officer's Representative (COR); **All Class II ECPs** require approval or disapproval by the Test Officer. If the COR does not concur in the classification of the ECP, the COR returns the ECP to the contractor for clarification. For ECPs where there is agreement as to classification, the appropriate authority signs and dates the ECP to specify the formal decision.

ENGINEERING CHANGE PROPOSAL

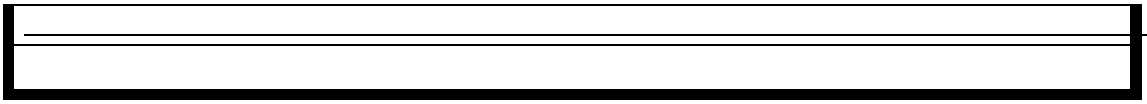
ECP ID NO: _____

Continuation Sheet

SHEET _____ of _____

1. ORIGINATOR/PHONE NO:	2. DATE SUBMITTED:

(Enter item number and continuation data)



CONFIGURATION MANAGEMENT
LIBRARY REQUEST FORM

CONFIGURATION MANAGEMENT LIBRARY REQUEST FORM

DATE: _____

CMLRF ID NO.: _____

1. TASK/SYSTEM/NAME:	**2. REQUESTOR:**	**3. TASK MANAGER APPROVAL:**

4. ACTION REQUESTED:

☐ Update ☐ Add ☐ Archive ☐ Retrieve ☐ Delete ☐ Other:_____ ☐ Backup ☐ Recover _____

5. EO: _____

WAC: _____

BLOCK 1: ☐ Software, ☐ Hardware, ☐ Documentation, ☐ Technical Database

CMID/Version/Date: _____

Medium (check one):

☐ System/Directory/File names: _____

☐ Tape[P], ☐ Diskette[F], ☐ Cartridge[C], ☐ Listing/Printout[L] - Identifier (P, F, C, or L): _____

Location: CML _____ Other _____

Description/Name (System/Task/Item/Data): _____

_____

Platform/Software Language: _____

PCR authorizing change: _____ ECP authorizing change: _____

DF CMID for this item: _____

BLOCK 2: Development Folder (DF) CMID: DF_____

DF Subject and its CMID: _____ /_____

Location: CML _____ Other _____

Person Responsible:_____

BLOCK 3: Miscellaneous CMID: _____

Select one: ☐ Listing ☐ Document ☐ Tape ☐ Diskette ☐ Cartridge tape ☐ Log ☐ Notebook

☐ Other _____

Title Description: _____

Location: CML _____ Other _____

BLOCK 4: Remarks:

6. CM COMMENTS:

7. COMPLETION:

Task CM Coordinator _____ ___/___/___ Labor Hours: ____

CM Manager: _____ ___/___/___ Labor Hours: ____

RETRIEVE WORKING COPY REQUEST FORM

RETRIEVE WORKING COPY REQUEST FORM

for CM Library Items

Request No:__

1. Requester:	2. Task Mgr./Dept. Mgr Approval:

3. Task or System Name:

(If applicable, EO: WAC: LOD:)

4. How is this working copy of a CI baseline/product to be used?

___ To be modified by incorporating approved changes and then entered into the CM library as the new version of the baseline/product.
The approved changes are authorized by PCR/ECP ID: _____.
Fill out and attach a RESERVE/UNRESERVE LIST FORM to include each item that will be affected by the changes t create the new version of the CI baseline/product.

___Other (describe):_____

5. List each individual item to be retrieved:

CM/Other ID	Version/Date	Item Name	Retrieve from (CM media/location)	Copy to (User media/location)

6. Retrieved by: (Hours:____)	7. Received by:
_____	_____

CMO/Task CM Coordinator	Date	Requester	Date

RESERVE/UNRESERVE LIST FORM

RESERVE/UNRESERVE LIST FORM

Request No:____

1. Requester:		2. Task Mgr./Dept. Mgr. Approval:
3(a) Action: Reserve:	3(b) Date to Activate	3(c) Justification for Action:
Unreserve:		

4. Task or System Name:

(If applicable, EO: WAC:)

5. Provide the following information for each item in the list:

Res	Unres	CM/Other ID	Item Name or Title	Item Type	Version/Date

CONFIGURATION MANAGEMENT LIBRARY
PRODUCT REQUEST FORM

CONFIGURATION MANAGEMENT LIBRARY PRODUCT REQUEST FORM

DATE: _____

(Use Continuation Sheet on back as needed)

CMLPRF ID NO.: _____

1. TASK/SYSTEM NAME:

2. REQUESTOR:

3. DELIVERY INSTRUCTIONS:

4. CONFIGURATION ITEM IDENTIFICATION: *(Identify the task CI for which products are being requested)*

5. PRODUCTS: ***The following products are requested for the specified CI:***

FUNCTIONAL BASELINE:
- ☐ All documentation
- ☐ Specific documents (list):

MEDIA TYPE: ☐ Hardcopy ☐ Tape: ____ ☐ Diskette: ____ ☐ Network file:_____

ALLOCATED BASELINE:
- ☐ All documentation
- ☐ Specific documents (list):

MEDIA TYPE: ☐ Hardcopy ☐ Tape: ____ ☐ Diskette: ____ ☐ Network file:_____

PRODUCT BASELINE:
- ☐ All design documentation/drawings
- ☐ Specific documents/drawings (list):

MEDIA TYPE: ☐ Hardcopy ☐ Tape: ____ ☐ Diskette: ____ ☐ Network file:_____

- ☐ Executable software Version:____
- ☐ Software source files Version:____
- ☐ Operational environment description Version:____

- ☐ User manual(s)
- ☐ Other documentation or software (list)

6. TASK MANAGER APPROVAL:

DATE: / /

7. NOTES: ☐ None ☐ See Continuation Sheet

8. EO: _____

WAC: _____ **LOD NO.:** _____

9. CONFIGURATION MANAGEMENT NOTES: ***(Continuation Sheet Attached ☐)***

- ☐ Documents printed
- ☐ Documents copied to magnetic media
- ☐ Documentation copied
- ☐ Software copied to network file
- ☐ Software copied to magnetic media
- ☐ Other (list) _____

Number of Products:_____

CM Labor Hours:_____

CONFIGURATION MANAGEMENT LIBRARY
PRODUCT REQUEST FORM

Continuation Sheet SHEET _____ of _____

1. TASK NAME:	2. CMLPRF ID NO.:

(Enter block number and continuation data)